REMARKS

The claims have been amended to provide consistency between the claims and the specification. Claims 3 and 5 have been made dependent upon claim 1. Upon allowance of claim 1, it is believed that all of the claims are properly patentable to Applicants.

Claim 1 has been amended to more clearly define Applicants' invention over the disclosures of the Petri and Preston et al patents.

The present invention provides an improvement over the prior art by housing the plunger within a hollow cylinder which is retained against the bottom of the cylindrical hole in the tensioner body by the compression spring which urges the outer end of the plunger to protrude from the body for tensioning purposes. This arrangement is neither illustrated nor suggested by the cited art. In the Petri patent, a plunger (piston 4) is guided in a cylinder 3. The cylinder has a base 6 which extends outwardly from the cylinder and a compression spring 13 surrounds the plunger and the cylinder bearing against the cylinder base 6 at one end and against the spring retainer 14 locked against the outside of the piston by a corrugated ring 19. By providing the spring within the cylinder, Applicants avoid alignment problems and facilitate the assembly of the tensioner. Furthermore, by fitting the hollow cylinder into the cylindrical hole of the body and providing an external diameter corresponding to the diameter of the cylindrical hole, a durable sub-assembly is provided which is not subject to misalignment and malfunction. Thus, the Petri patent does not teach or suggest the structure of Applicants' tensioner.

The Preston et al patent does not supply the deficiencies of the Petri patent. In the Preston patent, a plunger (piston 2) is received in a cylindrical chamber of the housing 20. The spring 4 is mounted in the chamber bearing against the piston at its upper end and against a disc 6 positioned in the lower end of the chamber. The Preston patent does not teach or suggest a body with a cylindrical hole and the use of a hollow cylinder in the hole to house the piston, the use of which enables applicants to provide a pressure chamber in a highly efficient and effective manner.

There is no suggestion in the Petri patent that the spring 13 may be housed within the cylinder 3 or that the cylinder 3 may be fitted to the inside of a cylindrical housing of the tensioner. There is no teaching or suggestion in the Preston patent that the internally-mounted spring 4 may be housed within a separate cylinder which is fitted inside the cylindrical chamber 15 of the housing 20. Although the housing 20, as shown in Fig. 7, is stated to be associat d with a tensioner housing 104, there is no teaching or suggestion in

the Preston patent that the housing 104 should have a cylindrical hole with a diameter corresponding to the external diameter of a cylinder housing the piston. The only suggestion combining the disclosures of the Petri and Preston patent is found in Applicants' own disclosure and claims, and the use of Applicants' claims to construct a purportedly anticipating structure is an improper basis for combining references. In order to render a claim obvious, the references themselves must teach the modification that is required to find an obviousness basis for rejection of a claim. The claims are not properly rejected by the Examiner's use of the Petri and Preston references.

The claims have been amended to more clearly define Applicants' invention in terms which distinguish over the references of record. Claim 1 has been amended to set forth that the hydraulic tensioner includes a hollow cup-shaped metallic cylinder fitted to the cylindrical hole. The claim furthermore sets forth that the hollow cylinder has a bottom plate and an external diameter corresponding to the diameter of the hole and an internal diameter providing an interior wall within which there is a compression spring and a plunger which combine with the interior wall to provide a pressure chamber between the inner end of the plunger and the bottom plate, the structure being such that the bottom plate is prevented from dropping out of the body by being engaged by the compression spring. This structure is neither suggested nor disclosed by the references and, accordingly, claim 1 is believed patentable to Applicants.

Claim 2 defines the invention including the check valve mechanism which is prevented from dropping out by its abutment on the bottom plate of the cylinder.

Claim 3 sets forth the arrangement wherein the check valve mechanism has a check ball and a spring supported by the bottom plate.

Claim 4 defines the check valve mechanism with greater particularity by specifying that it comprises a retainer supported by the bottom plate and having a top spaced from the bottom plate with the check valve ball and spring between the top and the bottom plate.

Claim 5 defines the invention wherein the check ball operates to block the through-hole formed in the bottom plate.

Claim 6 defines the invention wherein the hollow cylinder has protruding pieces to mount the shaft of a ratchet pawl for pivotal movement under spring bias towards a ratchet tooth on the outside surface of the plunger. This sub-assembly is neither suggested nor disclosed by the references and, accordingly, claim 6 is properly patentable along with claim 1.

Claims 7 and 8 define the invention specifying alternate preferred compositions of the tensioner body in combination with a metallic cylinder. The present invention enables the use of a die-cast body or a molded synthetic body particularly effective, by eliminating the need for accurate machining of the body to seal with the external diameter of the plunger. None of the references enables the use of a die-cast product or a molded synthetic resin product as the tensioner body and, thus, claims 7 and 8 define an invention which is neither suggested nor disclosed by the references.

The invention has been shown to be not taught or suggested by the references, and the claims define the invention in terms which distinguish over the references. Accordingly, claims 1-8 are believed properly patentable to Applicants.